

No.25
Revision 2
Mitsubishi Heavy Industries, Ltd.
Mitsubishi MU-2B-30
Mitsubishi MU-2B-35
Mitsubishi MU-2B-36
Date : September 28, 2021

Type Certificate Holder: Mitsubishi Heavy Industries, Ltd.
2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo, Japan

I-Model Mitsubishi MU-2B-30, (Normal Category), Approved Jun 2, 1969

Engines	2	AiResearch TPE331-1-151A Propeller-shaft to engine-rotor ratio	1 : 20.865
Fuel		Fuels as designated ASTM D1655-68T Aviation Turbine Fuels MIL-DTL-5624 Turbine Fuel MIL-F-5616-1 Fuel MIL-F-46005A (MR) -1 Fuel British Ministry of Supply Specifications MIL-G-5572D Aviation Gasoline	Type Jet A, JET A-1 and Jet B Grade JP-4 and JP-5 Grade JP-1 Type I and II (a) D.Eng.R.D.2482 Issue No.2 (b) D.Eng.R.D.2486 Issue No.2 (c) D.Eng.R.D.2494 Issue No.4 Grade 80/87 (as emergency fuel only) Grade 100/130 (as emergency fuel only)
Oil		Oil brands and trade names conforming to MIL-L-23699 or MIL-L-7808 are approved lubricants. (See Allied Signal Aerospace Company Service Information Letter SIL P331-2 latest revision.)	

Engine Limits	Static Sea Level Rating (I.S.A.)					
	Shaft Horsepower (SHP)	Jet Thrust (lbs.)	Equivalent Horse- Power (ESHP)	Propeller Shaft Speed (%)*	Maximum Permissible Exhaust Gas Temperature (°C)	
Takeoff (5 min.)	665	100	705	100	572	
Maximum continuous	665	100	705	100	550	
Starting transient (1 sec.)					815	

At low altitude and low ambient temperature, the engines may produce more power than that for which the aircraft has been certificated. Under these conditions, the placarded torque meter limitations shall not be exceeded.

*The maximum allowable propeller shaft speed is 105% for a transient period not to exceed 5 seconds, and 101% for 5 minutes. 100% propeller shaft speed is defined as 2,000 r.p.m.

[illegible]

Mitsubishi MU-2B-30 (cont'd)

Propeller and Propeller Limits

2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11R with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11R with 3 blades each

Diameter: 90-3/8 inches

Pitch setting at 30 in. Station

Flight Idle	12°
Feathered	87.0 ° ± 0.5°
Reverse	-6.5°

Airspeed Limits (CAS)

V _{mo}	(Maximum Operating)	250 knots (287 m.p.h.)
	Decrease by 5 knots per 1,000 ft. above 21,300 ft. to account for M _{mo} = .57 M	
V _p	(Maneuvering)	188 knots (216 m.p.h.)
V _{fe}	(Flaps extended)	
	Flap 5°	145 knots (167 m.p.h.) (S/N 502, 504, 506 thru 519, 521 thru 523 if not modified by S/B No.113)
	Flap 5°	146 knots (168 m.p.h.) (S/N 505, 520, 524 and up if not modified by S/R No. 010) (S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No. 113 and not modified by S/R No.010)
	Flap 5°	175 knots (201 m.p.h.)
	Flap 20°, 40	146 knots (168 m.p.h.) (S/N 505, 520, 524 and up if modified by S/R No. 010) (S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No. 113 and S/R No.010)
V _{lo}	(Landing gear operating)	
	Retract	160 knots (184 m.p.h.) (S/N 502 thru 504, 506 thru 519, 521 thru 523 if not modified by S/B No.113)
	Extend	170 knots (195 m.p.h.) (S/N 502 thru 504, 506 thru 519, 521 thru 523 if not modified by S/B No.113)
	Retract	170 knots (195 m.p.h.) (S/N 505, 520,524 and up. S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No.113)
	Extend	170 knots (195 m.p.h.) (S/N 505, 520,524 and up. S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No.113)
V _{le}	(Landing gear extended)	170 knots (195 m.p.h.)
V _{mc}	(Minimum control)	
	Flap 5°	99 knots (114 m.p.h.)
	Flap 20°	90 knots (104 m.p.h.)

Mitsubishi MU-2B-30 (cont'd)

C. G. Range
(Landing
Gear Extend)

Weight (lbs.)	Forward	Aft
10,360 or less	+190.93 (21% MAC)	+199.41 (35% MAC)
(S/N 502 thru 504, 506 thru 519, 521 thru 523 if not modified by S/B No. 113)		
10,360 or less	+190.93 (21% MAC) to	+199.41 (35% MAC)
10,800	+192.75 (24% MAC) to	+199.41 (35% MAC)
(S/N 505, 520, 524, and up. S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No.113)		
Straight line variation between points given.		
Moment change due to gear retraction is -6,556 in. lbs.		

Maximum Weight	Take off	10,360	lbs.
	Landing	9,850	lbs.
	Zero fuel	9,772	lbs.
	(S/N 502 thru 504, 506 thru 519, 521 thru 523 if not modified by S/B No.113)		
	Take off	10,800	lbs.
	Landing	10,260	lbs.
	Zero fuel	9,772	lbs.
	(S/N 505, 520, 524 and up. S/N 502 thru 504, 506 thru 519, 521 thru 523 if modified by S/B No.113)		

No. of Seats Maximum 10 (Pilot at +97.2)
See loading instructions for passenger loading.

Maximum Baggage 600 lbs. at +286.8

Fuel Capacity	Wing Tank	Total Cap	Usable
		159 gal. (+204.5)	156 gal.
	Outer Tank (2 at 15 gal. ea.)	30 gal. (+201.0)	30 gal.
	Tip Tank (2 at 93 gal. ea.)	186 gal. (+193.1)	180 gal.
	Total	375 gal.	366 gal.

Fuel weight are based on 6.5 lbs./gal.

*See Note 1 (c) for required fuel usage procedure.

Oil Capacity Total (2 at 1.55 gal. each tank) 3.1 gal. (+175.9)

Maximum Operating Altitude 25,000 ft.

Control Surface Movements	Spoiler	Up	60°		
	Aileron Trim	Up	20°	Down	20°
	Elevator	Up	28°	Down	12°
	Elevator Tab	Up	30°	Down	10° (If not modified by S/B No. 216)
		Up	30°	Down	1° (If modified by S/B No. 216)
	Rudder	Right	24°	Left	22°
	Rudder Tab	Right	25°	Left	25°
	Flap Outboard			Down	40°
	Flap Inboard			Down	40°

Serial Nos. Eligible MU-2B-30 502 thru 547

 II-Model Mitsubishi MU-2B-35, (Normal Category), Approved February 4, 1971.

Engines	2	AiResearch	TPE331-6-251M, or	
	2	AiResearch	TPE331-6A-251M, or	
	2	AiResearch	TPE331-6-252M, or	
	2	AiResearch	TPE331-6A-252M	
		Propeller-shaft to engine-rotor ratio		1 : 20.865
Fuel	Fuels as designated			
	ASTM D1655-68T Aviation Turbine Fuels		Type Jet A, JET A-1 and Jet B	
	MIL-DTL-5624 Turbine Fuel		Grade JP-4 and JP-5	
	MIL-F-5616-1 Fuel		Grade JP-1	
	MIL-F-46005A (MR) -1 Fuel		Type I and II	
	British Ministry of Supply Specifications		(a) D.Eng.R.D.2482 Issue No.2 (b) D.Eng.R.D.2486 Issue No.2 (c) D.Eng.R.D.2494 Issue No.4	
	MIL-G-5572D Aviation Gasoline		Grade 80/87 (as emergency fuel only) Grade 100/130 (as emergency fuel only)	
Oil	Oil brands and trade names conforming to MIL-L-23699 or MIL-L-7808 are approved lubricants. (See Allied Signal Aerospace Company Service Information Letter SIL P331-2 latest revision.)			

Engine Limits	Static Sea Level Rating (I. S. A.)			
		Shaft Horsepower (SHP)	Propeller Shaft Speed (%)*	Maximum Permissible Interstage Turbine Temperature (°C)
	Takeoff (5 min.)	665	100	923
	Maximum continuous	665	100	923
	Starting transient (1 sec.)			1149

At low altitude and low ambient temperature, the engines may produce more power than that for which the aircraft has been certificated. Under these conditions, the placarded torque meter limitations shall not be exceeded.

*The maximum allowable propeller shaft is 106% for a transient period not to exceed 5 seconds, and 101.5% for 5 minutes. 100% propeller shaft speed is defined as 2,000 r.p.m.

Propeller and Propeller Limits

2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11R with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11R with 3 blades each

Diameter 90-3/8 inches

Pitch setting at 30 in. station

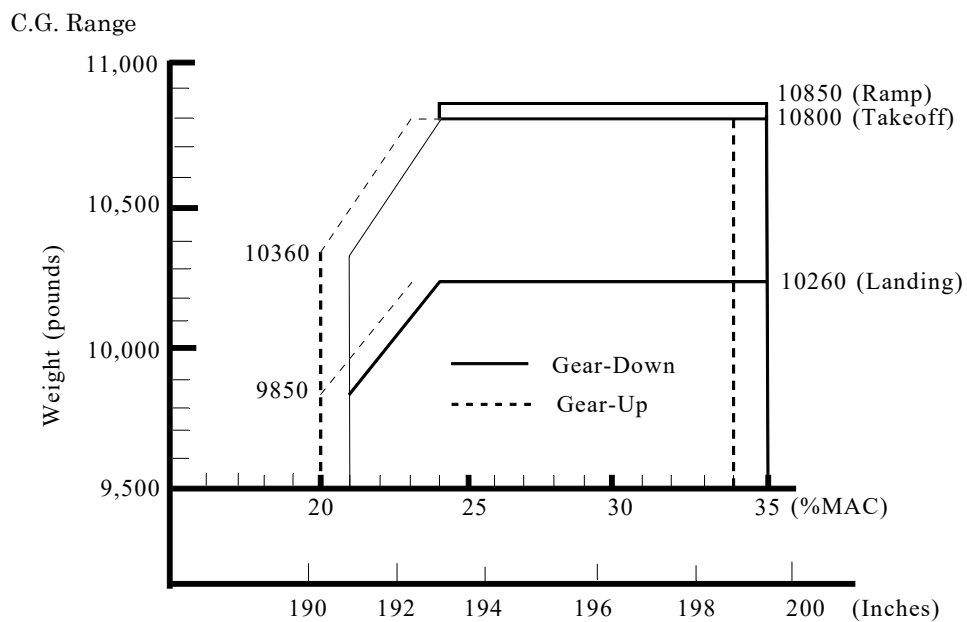
Flight Idle	12°
Feathered	87.0° ± 0.5°
Reverse	-6.5°

Mitsubishi MU-2B-35 (cont'd)

Airspeed Limits (CAS)

V _{mo}	(Maximum Operating):	250 knots (287 m.p.h.)
	Decrease by 5 knots per 1,000 ft. above 21,300 ft. to account for M _{mo} = .57 M	
V _p	(Maneuvering)	188 knots (216 m.p.h.)
V _{fe}	(Flaps extended)	
	Flap 5°	146 knots (168 m.p.h.)
		(S/N 548 thru 609 if not modified by S/R No.010)
	Flap 5°	175 knots (201 m.p.h.)
		(S/N 610 and up. S/N 548 thru 609 if modified by S/R No.010)
V _{lo}	Flap 20°, 40°	146 knots (168 m.p.h.)
	(Landing gear operating)	
	Retract	170 knots (195 m.p.h.)
	Extend	170 knots (195 m.p.h.)
V _{le}	(Landing gear extended)	170 knots (195 m.p.h.)
V _{mc}	(Minimum control)	
	Flap 5°	99 Knots (114 m.p.h.)
	Flap 20°	90 Knots (104 m.p.h.)

Mitsubishi MU-2B-35 (cont'd)



Ramp & Takeoff C.G. Ranges	Forward		Aft		Weight Pounds
	In.	%MAC	In.	%MAC	
Gear Up	+190.3	20	+198.8	34	10360
Condition	+192.1	23	+198.8	34	10800
Gear	+190.9	21	+199.4	35	10360
Down	+192.8	24	+199.4	35	10800
Condition	+192.8	24	+199.4	35	10850

Landing C.G. Ranges	Forward		Aft		Weight Pounds
	In.	%MAC	In.	%MAC	
Gear Up	+190.3	20	+198.8	34	9850
Condition	+192.1	23	+198.8	34	10260
Gear Down	+190.9	21	+199.4	35	9850
Condition	+192.8	24	+199.4	35	10260

Straight line variation between points given.

Moment change due to gear retraction is -6556 in-lbs.

Maximum weight	Ramp	10,850	lbs.
	Takeoff	10,800	lbs.
	Landing	10,260	lbs.
	Zero fuel	9,775	lbs.

Number of seats Maximum 10 (Pilot at +97.2)
See loading instructions for passenger loading.

Maximum baggage 600 lbs. at +286.8

Fuel capacity		TOTAL CAP	USABLE
Wing tank		159 gal. (+204.5)	156 gal.
Outer tank (2 at 15 gal. ea.)		30 gal. (+201.0)	30 gal.
Tip tank (2 at 93 gal. ea.)*		186 gal. (+193.1)	180 gal.
Total		375 gal.	366 gal.

Fuel weights are based on 6.5 lbs./gal.

*See Note 1 (c) for required fuel usage procedure.

Mitsubishi MU-2B-35 (cont'd)

Oil capacity	Total 3.1 gal. (1.55 gal. each tank) (+175.9)				
Maximum Operating Altitude	25,000 ft.				
Control Surface Movements	Spoiler	Up	60°		
	Aileron Trim	Up	20°	Down	20°
	Elevator	Up	28°	Down	12°
	Elevator Tab	Up	30°	Down	10°
		Up	30°	Down	(If not modified by S/B No. 216) 1°
					(If modified by S/B No. 216)
	Rudder	Right	24°	Left	22°
	Rudder Tab	Right	25°	Left	25°
	Flap Outboard			Down	40°
	Flap Inboard			Down	40°
Serial Nos. Eligible MU-2B-35	548 thru 651, 653				

 III-Model Mitsubishi MU-2B-36, (Normal Category), Approved Jun 12, 1974.

Engines	2	AiResearch	TPE331-6-251M, or	
	2	AiResearch	TPE331-6A-251M, or	
	2	AiResearch	TPE331-6-252M, or	
	2	AiResearch	TPE331-6A-252M	
		Propeller-shaft to engine-rotor ratio		1 : 20.865
Fuel	Fuels as designated			
	ASTM D1655-68T Aviation Turbine Fuels		Type Jet A, JET A-1 and Jet B	
	MIL-DTL-5624 Turbine Fuel		Grade JP-4 and JP-5	
	MIL-F-5616-1 Fuel		Grade JP-1	
	MIL-F-46005A (MR) -1 Fuel		Type I and II	
	British Ministry of Supply Specifications		(a) D.Eng.R.D.2482 Issue No.2 (b) D.Eng.R.D.2486 Issue No.2 (c) D.Eng.R.D.2494 Issue No.4	
	MIL-G-5572D Aviation Gasoline		Grade 80/87 (as emergency fuel only) Grade 100/130 (as emergency fuel only)	
Oil	Oil brands and trade names conforming to MIL-L-23699 or MIL-L-7808 are approved lubricants. (See Allied Signal Aerospace Company Service Information Letter SIL P331-2 latest revision.)			

Engine Limits Static Sea Level Rating (I.S.A.)

	Shaft Horsepower (SHP)	Propeller Shaft Speed (%)*	Maximum Permissible Interstage Turbine Temperature (°C)
Takeoff (5 min.)	715	100	923
Maximum continuous	715	100	923
Starting transient (1 sec.)			1149

At low altitude and low ambient temperature, the engines may produce more power than that for which the aircraft has been certificated. Under these conditions, the placarded torque meter limitations shall not be exceeded.

*The maximum allowable propeller shaft speed is 106% for a transient period not to exceed 5 seconds, and 101.5% for 5 minutes. 100% propeller shaft speed is defined as 2,000 r.p.m.

Propeller and Propeller Limits

2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11 with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178B-11R with 3 blades each, or
2	Hartzell	HC-B3TN-5(C or E or M)/T10178NB-11R with 3 blades each

Diameter 90-3/8 inches

Pitch setting at 30 in. Station

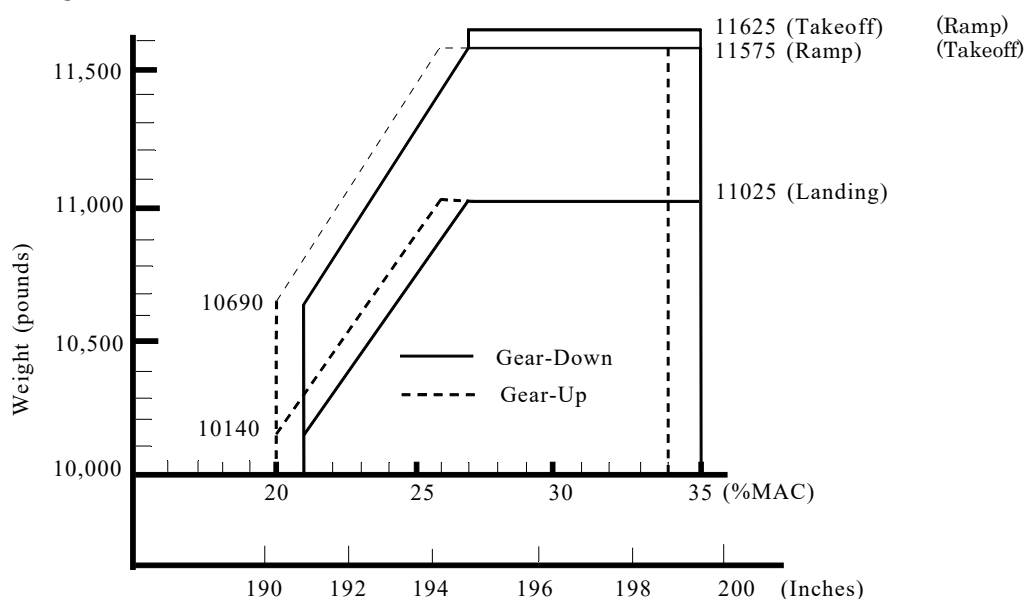
Flight Idle	12°
Feathered	87.0° ± 0.5°
Reverse	6.5°

Model Mitsubishi MU-2B-36 (cont'd)

Airspeed Limits (CAS)

V _{mo}	(maximum operating)	250 knots (287 m.p.h.)
	Decrease by 5 knots per 1,000 ft. above 21,300 ft. to account for M _{mo} = .57M	
V _p	(Maneuvering)	191 knots (220 m.p.h.)
V _{fe}	(Flaps extended)	
	Flap 5°	175 knots (201 m.p.h.)
	Flap 20°, 40°	155 knots (178 m.p.h.)
V _{lo}	(Landing gear operating)	175 knot (201 m.p.h.)
V _{le}	(Landing gear extended)	175 knots (201 m.p.h.)
V _{mc}	(Minimum control)	
	Flap 5	99 knots (114 m.p.h.)
	Flap 20°	99 knots (114 m.p.h.)

C.G. Range



Ramp & Takeoff C.G. Ranges	Forward		Aft		Weight Pounds
	In.	%MAC	In.	%MAC	
Gear Up	+190.3	20	+198.8	34	10690
Condition	+194.0	26	+198.8	34	11575
Gear	+190.9	21	+199.4	35	10690
Down	+194.6	27	+199.4	35	11575
Condition	+194.6	27	+199.4	35	11625

Landing C.G. Ranges	Forward		Aft		Weight Pounds
	In.	%MAC	In.	%MAC	
Gear Up	+190.3	20	+198.8	34	10140
Condition	+194.0	26	+198.8	34	11025
Gear Down	+190.9	21	+199.4	35	10140
Condition	+194.6	27	+199.4	35	11025

Straight line variation between points given.

Moment change due to gear retraction is -6556 in-lbs.

Model Mitsubishi MU-2B-36 (cont'd)

Maximum weight	Ramp	11,625	lbs.
	Take off	11,575	lbs.
	Landing	11,025	lbs.
	Zero fuel	9,943	lbs.

No. of seats	Maximum 10 (Pitot at +97.2)
	See loading instructions for passenger loading

Maximum baggage	600 lbs. at +286.8
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Fuel capacity		TOTAL CAP	USABLE
	Wing tank	159gal.(+204.5)	156gal.
	Outer tank	30gal.(+201.0)	30 gal.
	Tip tank (2 at 93 gal. ea.)*	186gal.(+193.1)	180 gal.
	Total	375gal.	366 gal.

Fuel weights are based on 6.5 lbs./gal.

*See Note 1(c) for required fuel usage procedure.

Oil Capacity	Total 3.1 gal. (1.55 gal. each tank) (+175.9)
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Maximum Operating Altitude 25,000 ft.

Control Surface Movements	Spoiler	Up	60°		
	Aileron Trim	Up	20°	Down	20°
	Elevator	Up	28°	Down	12°
	Elevator Tab	Up	30°	Down	10°
					(If not modified by S/B No. 216)
		Up	30°	Down	1°
					(If modified by S/B No. 216)
	Rudder	Right	24°	Left	22°
	Rudder Tab	Right	25°	Left	25°
	Flap Outboard			Down	40°
Flap Inboard			Down	40°	

Serial Nos. Eligible	MU-2B-36	501*, 655 thru 660, 662 thru 696
		* See Note 5

DATA PERTINENT TO ALL MODELS

Datum	6.69 in. (170 mm) aft of Nose, for Model MU-2B-30, MU-2B-35 and MU-2B-36. [Forward 220.67 in.(5605 mm) from front plane of wing rear spar-fuselage connecting frame.]						
MAC	60.55 in. [Leading edge of MAC is at +178.23 (MU-2B-30, MU-2B-35, MU-2B-36).]						
Leveling means	A plumb bob suspension crimp fitted to the channel of the pressure bulkhead (STA.8035), and a leveling provision scale on the equipment floor in the electrical compartment, for Models MU-2B-30, MU-2B-35 and MU-2B-36.						
Certification basis	<p>Civil Aeronautics Regulations Annex 1 “Technical Standards for Ensuring Safety of Aircraft and Equipment”</p> <p>Part 2 of the TAIKUSEI-SHINSA-YORYO (JCAB Airworthiness Standards) (Enacted in 1960, the KU-KEN-443, revised in 1964, the KU-KEN-190.)</p> <p>Special conditions respect to the following subjects apply to the Model MU-2B-30. KU-KEN-151 (Jun 21,1965) KU-KEN-264 (Jun 28,1971)</p> <p>NOTE: Certification basis, in its technical contents, corresponds to FAA CAR 3, dated May 15, 1956, including Amendments 3-1 through 3-8, plus the Special Conditions stated in FAA letter to the JCAB dated May 14, 1965, modified by FAA letters to the JCAB dated January 25, 1968 and May 12,1971.</p> <p>Civil Aeronautics Regulations Annex 2 : N/A Civil Aeronautics Regulations Annex 3 : N/A Civil Aeronautics Regulations Annex 4 : N/A</p>						
Required equipment	<p>The basic required equipment as prescribed in the applicable Equipment airworthiness regulations (see Certification Basis) must be installed in the aircraft for type certification.</p> <p>Mitsubishi Reports YET69069 (MU-2B-30), YET70176 (MU-2B-35), and YET74196 (MU-2B-36) contain lists of all required equipment as well as optional equipment installations approved by the JCAB.</p>						
NOTE 1:	<p>(a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification.</p> <p>(b) The certificated empty weight and corresponding center of gravity location must include unusable fuel as follows:</p> <table> <tr> <td>Unusable fuel (MU-2B-30)</td><td>58.5 lbs. at (+196.9)</td></tr> <tr> <td>Unusable fuel (MU-2B-35)</td><td>58.5 lbs. at (+196.9)</td></tr> <tr> <td>Unusable fuel (MU-2B-36)</td><td>58.5 lbs. at (+196.9)</td></tr> </table> <p>(c) The fuel quantity of each tip tank must be not more than 65 gallons, Model MU-2B-30, MU-2B-35, and MU-2B-36 before landing.</p>	Unusable fuel (MU-2B-30)	58.5 lbs. at (+196.9)	Unusable fuel (MU-2B-35)	58.5 lbs. at (+196.9)	Unusable fuel (MU-2B-36)	58.5 lbs. at (+196.9)
Unusable fuel (MU-2B-30)	58.5 lbs. at (+196.9)						
Unusable fuel (MU-2B-35)	58.5 lbs. at (+196.9)						
Unusable fuel (MU-2B-36)	58.5 lbs. at (+196.9)						
NOTE 2.	This aircraft must be operated in accordance with the JCAB approved Airplane Flight Manual.						
NOTE 3.	(DELETE)						
NOTE 4.	(a) Model MU-2B-35 can be converted to Model MU-2B-36 by complying with the provisions of S/R No.020.						
NOTE 5.	S/N 501 were produced as Model MU-2B-30. After that, S/N 501 was converted to Model MU-2B-35 to use it as a prototype model for acquiring Type Certification. Finally, S/N 501 was converted to Model MU-2B-36 to use it as a prototype model for acquiring Type Certification.						